

Recovery Plan Action Status

Plan Name: Slender Rush-pea (*Hoffmannseggia tenella*) Recovery Plan

Plan Status: Final

Plan Date: 13-Sep-88

Lead Agency: USFWS

Lead Office: Corpus Christi Ecological Services Field Office

(361)
994-9005)

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
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Slender rush-pea (Hoffmannseggia tenella)	1	111	Provide habitat protection through cooperation with private landowners	Ongoing Current	Prior to FY 1995		Corpus Christi Ecological Services	Management: Habitat Maintenance and Manipulation	Internal Technical Assistance	In 1989, under contract with the FWS, TNC contacted landowners to initiate land conservation agreements. In 2008, ESFO staff met with representatives of cemetery population site - Parish Priest and a member of cemetery committee - discussed habitat management and significance of listed plants. In FY 2011, CCESFO, NRCS Kika de la Garza Plant Materials Center, and TAMU-Kingsville researcher met with Cemetery Committee to discuss status of plants and the extent of invasive grasses, along with management options/ Also in FY 2011, CCESFO and TAMUK researcher met with Nueces County Park Director in charge of Sblatura County Park to show him the SRP plants and extent of the population in the park. Also discussed protection and management measures for this site.
Slender rush-pea (Hoffmannseggia tenella)	1	112	Obtain long-term protection of essential habitat	Unknown	Prior to FY 1995		U.S. Fish and Wildlife Service, Division of Realty, USFWS Regional Office 2, Corpus Christi Ecological Services	Acquisition: General	Internal Technical Assistance	

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Slender rush-pea (Hoffmannseggia tenella)	2	12	Work with Texas highway department to protect plants	Ongoing Current	Prior to FY 1995		Texas Department of Transportation, Corpus Christi Ecological Services, Texas A&M University Kingsville	Management: Land Use	Internal Technical Assistance	In 1999, TxDOT performed endangered species surveys along Hwy77 ROW. In 2008, met on site at both TxDOT ROW population sites to discuss management and arrange for additional management actions. In FY 2011, TXDOT contractor staged piles of gravel along the Highway 77 ROW, one of which covered part of a SRP subpopulation. The CCESFO coordinated with the Corpus Christi TXDOT District Office and TAMUK to remove the gravel and take precautionary measures to avoid damage to remaining plants at the site. TAMUK researcher and TXDOT biologist collected seed from this subpopulation - all in storage at NRCS Kika de la Garza Plant Materials Center. At Petronila Creek site, in old ROW along Hwy 70, TXDOT carried out mowing requested by CCESFO and NRCS, to help control invasive grasses.

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Slender rush-pea (Hoffmannseggia tenella)	2	13	Monitor for human or natural impacts	Ongoing Current	Prior to FY 1995		Corpus Christi Ecological Services, Texas A&M University Kingsville, USFWS Texas State Botanist	Management: Habitat Maintenance and Manipulation	Contract	- Multiple site visits during FY08 to all 3 known population sites as cursory site exams for on-going impacts - plant census - new baseline count at Hwy 77 ROW site - FWS state botanist and TAMUK researcher. As part of a 2009 Cooperative Agreement (modified in 2010) and funded with Preventing Extinction grants, the NRCS PMC and TAMUK, have carried out field work that includes surveys for new populations of SRP. During this work, a new population was located in a Nueces County park (Sablatura Park). They have also visited all known populations multiple times. Although abundance estimates have not been carried out, the condition of the plants and the sites has been monitored.

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Slender rush-pea (Hoffmannseggia tenella)	2	14	Implement beneficial management practices	Ongoing Current	Prior to FY 1995		Corpus Christi Ecological Services, Natural Resource Conservation Service's Plant Materials Center, USFWS Texas State Botanist	Management: Predator and Competitor Control	Contract	3 Actions in 2008: 1) TxDOT sent mowers to Petronilla Creek/Hwy 70 ROW site and mowed twice; FWS on site multiple times flagging plants and areas to be mowed; 2) TAMUK researcher flagged plants; 3) NRCS PMC Director - grass specific herbicide experiment. In FY 2011, Cemetery mowed areas at the request of CCESFO, NRCS, and TAMUK. TxDOT mowed and NRCS conducted more grass-specific herbicide applications at the TxDOT Hwy 70 Petronilla Creek site to benefit the SRP.

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Slender rush-pea (Hoffmannseggia tenella)	2	2	Search for unknown populations	Ongoing Current	Prior to FY 1995		USFWS Regional Office 2, Corpus Christi Ecological Services, Texas A&M University Kingsville	Research: Population Surveys	Species Expert	In 1982-Mahler found 3 plants at Petronilla Creek/Hwy 70 site. Since 1982, several individuals have been found at this site: 100 plants (1986), 10 plants (1994), none (2002), five stems in 2004. In 1993- two new sites were found on former Nat'l Guard Training area in Kleberg Co-several hundred plants found on one side and 50 plants on the other; site not been revisited since 1993. In March 2010, a population was found in Sablatura, Nueces County and is now considered the northern-most extent of the species range; however, we are unaware if this is a new or historic population. Also, new plants found in Bishop City park (March 2010) probably part of a bigger metapopulation in the nearby St. James Cemetery.

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Slender rush-pea (Hoffmannseggia tenella)	2	31	Develop cultivation	Ongoing Current	Prior to FY 1995		USFWS Regional Office 2, Corpus Christi Ecological Services	Research: Propagation	Species Expert	In 1990's TAMUCC graduate student conducted greenhouse studies to examine effects of competition from introduced invasive grass Kleberg bluestem on the SRP. The NRCS PMC collected seed and grew seedlings for this research project. In 2008, CCESFO received a \$26,280 Preventing Extinction grant to fund the following: 1) Additional seed banking; 2) propagation from existing seed bank; 3) development of a reintroduction plan; 4) creation of refugia populations; 5) invasive plant control at one former population site and one extant population; 6) development of a monitoring plan; 7) soil and geological characterization; and 8) additional surveys. In FY 2009, CCESFO obligated the preventing extinction funds via a Cooperative Agreement with Nueces Co Soil and Water Conservation District who contracted propagation work (seed collection and seedling production for reintroductions) to the PMC. During FY 2011, the PMC has germinated and raised seedlings from several different populations. Some

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										of these seedlings will end up in an ex-situ refugia in the Lower Rio Grande Valley.
Slender rush-pea (Hoffmannseggia tenella)	2	32	Maintain botanical garden population	Ongoing Current	Prior to FY 1995		Corpus Christi Ecological Services, San Antonio Botanical Garden, USFWS Texas State Botanist	Management: Propagation	Contract	1988-Plants from St. James Cemetery were transplanted into native area of CCBG (C.C. Botanical Gardens)-doing well in 1990 but a monitoring survey in December was unsuccessful in finding plants; it looked to be overrun with invasives. Seed was collected from HWY 77 ROW site and given to SABG for germination and seed banking. SABG continued to raise seedlings and maintain SRP plants - all derived from Bishop cemetery population seeds. In 2006; SABG germinated 100 seedlings within 6 days of sowing. In 2007; 91 seedlings have emerged from pots however, none have been sent to Seed Bank but remain in cultivation at SABG. In 2009, all remaining SRP plant material was transferred from the SABG to the NRCS' Kika de la Garza Plant Materials Center where seed is housed and the species is currently being cultivated (FY 2011).

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Slender rush-pea (Hoffmannseggia tenella)	2	33	Establish populations in suitable natural habitat	Partially Complete	FY 2009	FY 2012	USFWS Regional Office 2, Corpus Christi Ecological Services	Management: Reintroduction	Contract	The 2008 Preventing Extinction grant for SRP provided for, as one of the tasks, reintroduction of seedlings into the Petronila Creek site. The reintroduction was predicated on getting control of the invasive grasses at the site by mowing and herbicide applications. After carrying out these activities for 1.5 years, it became apparent that this site will require too much active maintenance of invasive grasses to make reintroduction of the very small SRP feasible here. Instead, experiments are under way to see if short-grass prairie conditions can be created into which SRP, and its associates, could be planted. Also, some of the seedlings raised for this project are now planned for planting into a refugia to offer them long- term protection.

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Slender rush-pea (Hoffmannseggia tenella)	2	41	Determine habitat requirements	Ongoing Current	Prior to FY 1995		U.S. Fish and Wildlife Service, USFWS Regional Office 2, Corpus Christi Ecological Services	Research: Habitat Requirements, Research: Habitat Status	Contract	1997-Paper 'Comparison of Soil Composition at Two Locations of the Endangered H.tenella' was published. Found that plants grow in soils with high clay content in Kleberg and Nueces Co. and there were no differences between the soil profiles; must be some other aspect (ie, invasive grasses)influencing density of H.tenella at the different sites.
Slender rush-pea (Hoffmannseggia tenella)	2	42	Study populations dynamics	Partially Complete	FY 2010	FY 2010	U.S. Fish and Wildlife Service, USFWS Regional Office 2, Corpus Christi Ecological Services, Texas A&M University Kingsville	Research: Population Surveys	Volunteer	2002 Final Report- Found that seedling production decreases and mature plants die, especially when invasives (like Kleberg bluestem) become abundant; also reduces genetic variability. Both field and greenhouse competition studies were done with K.bluestem. March 2010- an undergraduate student conducted a very short-term study to determine fruit set on 15-20 plants from a sub-population of SRP located in a yard in the town of Bishop. Student noted flowers, fruit, bloom period. Results are still pending.

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Slender rush-pea (Hoffmannseggia tenella)	2	43	Study populations ecology	Planned	FY 2011	FY 2012	Texas A&M University Kingsville	Research: Management Techniques	Contract	Beginning in summer 2011, a fire ecologist with Texas A & M University-Kingsville will conduct experiments with management techniques including fire, clipping, mowing at several of the SRP population sites. This researcher is contracting with the Nueces County Soil and Water Conservation District (under Cooperative Agreement with CCESFO).
Slender rush-pea (Hoffmannseggia tenella)	3	44	Determine genetic relationships	Partially Complete	FY 2000 - FY 2004		U.S. Geological Survey, USFWS Regional Office 2, Corpus Christi Ecological Services, Texas A&M University Kingsville	Research: Genetics	Species Expert	In 2003, researchers from two TAMU and Sul Ross Univ. along with USGS, initiated genetic studies. By end of 2006, a library of clones was developed from microsatellite-enriched DNA fragments.
Slender rush-pea (Hoffmannseggia tenella)	3	5	Establish down listing and delisting criteria	Ongoing Current	Prior to FY 1995		USFWS Regional Office 2, Corpus Christi Ecological Services	Management: General	Internal Technical Assistance	
Slender rush-pea (Hoffmannseggia tenella)	2	6	Develop public awareness	Ongoing Current	Prior to FY 1995		USFWS Regional Office 2, Corpus Christi Ecological Services	Other: Information and Education	Internal Technical Assistance	